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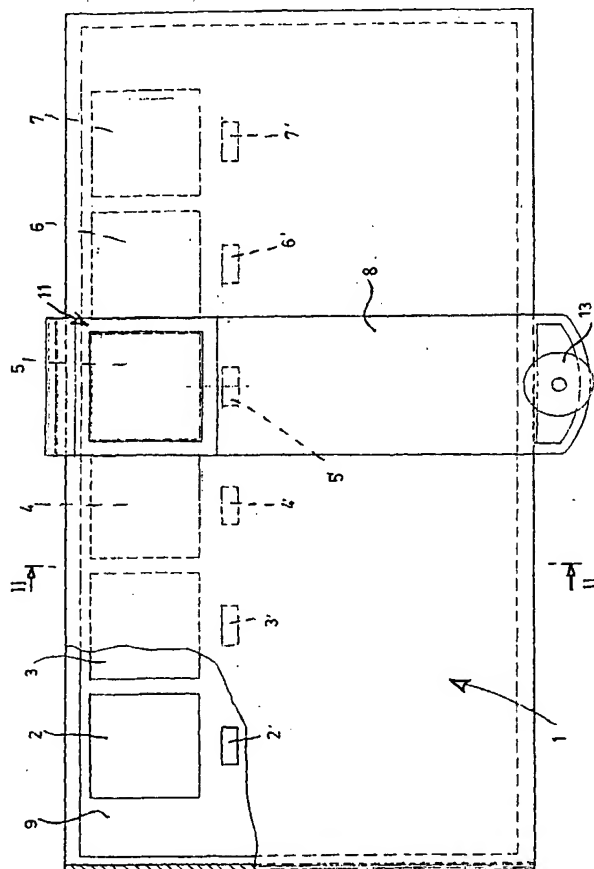
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[Continued on next page]

(54) Title: METHOD AND DEVICE FOR THE CLASSIFICATION AND COSMETIC TREATMENT OF WRINKLES



(57) Abstract: The present invention relates to a method for visually determining and classifying the degree of facial wrinkledness of the human skin, allowing a cosmetic treatment proportional to the degree of wrinkledness observed. The present invention also relates to a device (1), similar to a slide ruler, which allows a simple and accurate identification and classification of the degree of facial wrinkledness and the immediate association with a cosmetic treatment appropriate for the degree of wrinkledness observed.



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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

Published:

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METHOD FOR THE CLASSIFICATION AND COSMETIC TREATMENT OF
WRINKLES

The present invention relates to a method for the classification and cosmetic treatment of wrinkles.

In particular, the present invention relates to a method for determining and visually classifying the degree of wrinkledness of the human skin, allowing a cosmetic treatment appropriate for the degree of wrinkledness determined.

It is known that the aging of the skin is accompanied by the appearance of wrinkles, a kind of facial wrinkling which can apply to both the surface layers of the skin and also deeper layers, including the derma.

The origin of wrinkles is a complex phenomenon which can only partly be attributed to the age of the individuals. Various factors can in fact influence the formation of wrinkles, ranging from the general state of health to genetic predisposition, exposure to external agents harmful for the skin, so-called free radical

generators.

It is known in fact that the skin is subject to an aging process whose precociousness is in direct relation to the exposure of the skin to aggressive external agents such as smog, frequent temperature changes, sunlight, ultraviolet rays of sun lamps, etc.

The presence of all these variables in skin aging processes and in the formation of wrinkles, makes it difficult to apply a correct cosmetic therapy only on the basis of the age of the person to be treated.

In spite of this, current anti-wrinkle cosmetic treatment is almost exclusively based on the age of the patient and does not therefore take due account of the other variables and effective degree of wrinkledness of the face to be treated.

Manufacturers of cosmetic products, in fact, sell anti-aging creams with increasing compositions of active principles only in relation to the age of the patient.

It has also been verified that a significant percentage of users tend to purchase anti-wrinkle products of the same line with the highest concentrations of active principles in the hope that they are more effective than those with a low concentration of active principles.

This behaviour however has its disadvantages of use and can also cause the appearance of side-effects on the skin.

The appearance of these local side-effects is much
5 more probable and significant, from a dermatological point of view, when cosmetic creams containing high dosages of active principles with an exfoliating action (peeling effect), are inappropriately used.

In particular, it has been found that the use of
10 creams based on active principles with an exfoliating/regenerating activity such as glycolic acid (fruit acids) or derivatives of vitamin A, at dosages not adequately proportional to the degree of wrinkledness to be treated, can give rise to localized burning, skin
15 inflammations or excessive skin dryness.

In other words, owing to the difficulties so far observed in determining a correct and adequate treatment dosage, there is the risk of creating further damage to the skin tissues already subjected to aging processes.
20

The necessity is therefore felt for finding a method for classifying in advance the degree of individual skin aging or degree of face wrinkling, to enable an anti-wrinkle cosmetic treatment to be subsequently applied, in line with the degree of face wrin-
25

kledness determined.

One of the main objectives of the present invention consists in providing a method for the classification and cosmetic treatment of wrinkles which is reliable and substantially avoids or limits the appearance of the drawbacks observed in the known art.

Another objective of the present invention consists in providing a simple and immediate method for determining the degree of facial wrinkledness reached to allow a cosmetic therapy against skin aging to be defined.

Yet another objective consists in providing a method and device which enables a reliable and accurate self-assessment to be made of the degree of facial wrinkledness at low costs for the individual user.

These and other objectives which will be described in more detail hereunder, are achieved, according to a first aspect of the invention, by a device for classifying the degree of facial wrinkledness, comprising a supporting element on which photographic images or reproductions are arranged, portraying face wrinkling or wrinkles of varying depths, each of said photographic images or reproductions being associated with an anti-wrinkle product having a cosmetic anti-wrinkle activity in proportion to the degree of wrinkledness

portrayed or reproduced in said images.

In the context of the present invention, the device of the invention is defined as a wrinkle classifying device as it allows wrinkles to be classified according to a wrinkledness scale.

In accordance with another aspect of the present invention, a method is provided for the classification and cosmetic treatment of wrinkles or face wrinkling, which comprises:

- 10 - a preliminary visual observation phase of the wrinkles or face wrinkling of an individual,
- subsequent visual comparison with a wrinkledness scale comprising a series of photographic images or reproductions arranged in increasing order of wrinkledness on a supporting structure, to determine the degree of wrinkledness closest to that observed for said individual,
- association of the degree of wrinkledness determined in the previous phases with a cosmetic product having an anti-wrinkle activity proportional to the degree of wrinkledness determined in the previous phase,
- 20 - application of a cosmetically effective quantity of said cosmetic product on the areas of the face subject to wrinkles.

25 The cosmetic method of the invention not only en-

ables the classification of face wrinkles for the user,
but also a simple association with a cosmetic product
having an anti-wrinkle or anti-aging activity specifi-
cally studied for treating the degree of wrinkledness
5 identified by the individual.

In the method of the invention, cosmetic prepara-
tions with increasing contents of active principles
having an anti-wrinkle or anti-aging action are associ-
ated with greater degrees of extension and depth of
10 face wrinkling.

In accordance with a preferred embodiment of the
method of the invention, the product RUGASTIR produced
by LABO, under the Swiss trade-mark license of Cospro-
phar Labo, is used as cosmetic product with an anti-
15 wrinkle action.

In the wrinkle classifier of the invention, six
female human faces affected by increasing degrees of
wrinkledness are preferably portrayed in the photo-
graphic images.

20 The images illustrate faces of individuals in
which the first corresponds to a first degree of wrin-
kledness distinguished by initial and slight wrinkles,
a second degree with moderate and fine wrinkles, a
third degree with widely-spread, medium wrinkles, a
25 fourth degree with medium/deep wrinkles, a fifth with

abundant, deep wrinkles and a sixth degree marked by numerous and very deep wrinkles.

The use of four RUGASTIR products incorporating increasing quantities of anti-wrinkle active principle, with 2.5; 3.5; 4.5; 5.5 mg/g of active principle respectively, is preferably associated with the four degrees of wrinkledness. The active principle advantageously consists of a biological reactor RB 160.

Further characteristics and advantages of the invention will be more evident from the description of a classification device of the degree of wrinkledness of a human face, illustrated in the enclosed drawings and provided for indicative and non-limiting purposes, wherein:

Figure 1 is a plan view from above of the classification device of wrinkles,

Figure 2 is a longitudinal section of the device illustrated in Figure 1.

With reference to the above figures, the classification device of wrinkledness comprises a supporting element on which photographic images or reproductions are arranged, on an increasing scale, portraying faces of people subject to the presence skin wrinkles of increasing gravity, starting from simple initial wrinkles of a slight degree to extremely numerous and deep wrin-

kles.

In particular, as illustrated in figure 1, the supporting element, indicated with reference number 1, comprises a rectangular-shaped element, advantageously made of Plexiglas, on which photographic images 2-7, side by side and portraying increasing degrees of wrinkledness, are arranged on a supporting sheet 9.

A cosmetic product (3'-6') having an anti-wrinkle activity appropriate for the degree of wrinkledness of the image above, corresponds to each of four reproductions or images (3-6), univocally, for example in a position below said image. An increasing classification is thus obtained, of the degree of wrinkledness, starting from the image 2 and ending with the image portrayed with number 7. Compositions with an increasing anti-wrinkle activity or with increasing dosages of active principle correspond to four degrees of wrinkledness out of the six illustrated and consequently four images (3-6).

The device of the invention also advantageously comprises a sliding cursor 8, preferably equipped with a display window 11, situated on said supporting element 1. The cursor 8 slides horizontally along said supporting element 1 allowing a particular image (5 in figure 1) to be accurately identified, with which an

anti-wrinkle cosmetic product (5' in figure 1), having an anti-wrinkle activity appropriate for the degree of wrinkledness illustrated in image 5, is associated. The positioning of the cursor 8 on the image 5 thus allows
5 the degree of wrinkledness of the face portrayed to be classified and the most suitable cosmetic treatment determined.

Figure 2 illustrates a transversal section of the device of the invention along the line II--II of Figure
10 1.

Figure 2 illustrates the cursor 8 which moves along the supporting structure 1 inside which there is a supporting sheet 9 on which the images 2-7 of figure 1 are arranged.

15 The cursor 8 is equipped with a window 11 to facilitate a correct and accurate positioning of the images 2-7 (not shown). The cursor 8 is constrained at one end to the supporting structure 1, and is secured by means of a screw 12 associated with a nut 13.

20 The device according to the invention fully satisfies the pre-established objectives, as it allows an accurate classification to be made of the degree of facial wrinkledness and the consequent univocal association with a cosmetic product having a composition specifically appropriate for the wrinkledness observed.
25

There are a wide variety of embodiments of the wrinkle classification device of the invention, one of these being illustrated in the enclosed drawings.

In practice, the materials used, and also the dimensions, provided they are compatible with the specific use described, can vary widely according to the specific demands.

CLAIMS

1. Method for the classification and cosmetic treatment of wrinkles or face wrinkling, comprising:
 - a preliminary visual observation phase of the wrinkles or face wrinkling of an individual,
 - subsequent visual comparison with a wrinkledness scale comprising a series of photographic images or reproductions arranged in increasing order of wrinkledness on a supporting structure, to determine the degree of wrinkledness closest to that observed for said individual,
 - association of the degree of wrinkledness determined in the previous phases with a cosmetic product having an anti-wrinkle activity proportional to the degree of wrinkledness determined in the previous phase,
 - application of a cosmetically effective quantity of said cosmetic product on the areas of the face subject to wrinkles.
2. The method according to claim 1, wherein said wrinkledness scale comprises six degrees of facial wrinkledness.
3. The method according to claim 2, wherein an image of a human face with initial and slight wrinkles corresponds to a first degree of wrinkledness, an image of a face with moderate and fine wrinkles corresponds to a

second degree, a face with widely-spread, medium wrinkles corresponds to a third degree, a face with medium/deep wrinkles corresponds to a fourth degree, a face with abundant, deep wrinkles corresponds to a fifth degree and a face with numerous and very deep wrinkles corresponds to a sixth degree.

4. The method according to one or more of the previous claims 1-3, wherein said cosmetic product comprises an skin anti-wrinkle or anti-aging active principle in increasing quantities and proportional to the degree of wrinkledness observed and classified.

5. The method according to one or more of the previous claims wherein said cosmetic product is RUGASTIR.

6. The method according to claim 5, wherein the local application of RUGASTIR 2.5 is associated with the second degree of wrinkledness; the application of RUGASTIR 3.5 with the third degree of wrinkledness; the application of RUGASTIR 4.5 with the fourth degree of wrinkledness and the application of RUGASTIR 5.5 with the fifth degree of wrinkledness.

7. The method according to claim 6 wherein said RUGASTIR incorporates a biological reactor RB160 with an anti-wrinkle and anti-aging activity of the skin.

8. The method according to one or more of the previous claims comprising the local application of a cos-

metically effective quantity of said cosmetic product once or several times a day.

9. A device for classifying the degree of facial wrinkledness, comprising a supporting element on which
5 photographic images or reproductions are arranged, which portray face wrinkling or wrinkles of varying depths, each of said photographic images or reproductions being associated with a product having an anti-wrinkle or anti-aging activity of the skin appropriate
10 for the degree of wrinkledness illustrated or reproduced.

10. The device according to claim 9, wherein said supporting element is substantially rectangular-shaped, with said photographic images or reproductions arranged
15 side by side.

11. The device according to claim 9 or 10, comprising a sliding cursor which moves along said supporting element to determine the photograph image or reproduction which is closest to the degree of face wrinkledness of
20 the person to be treated.

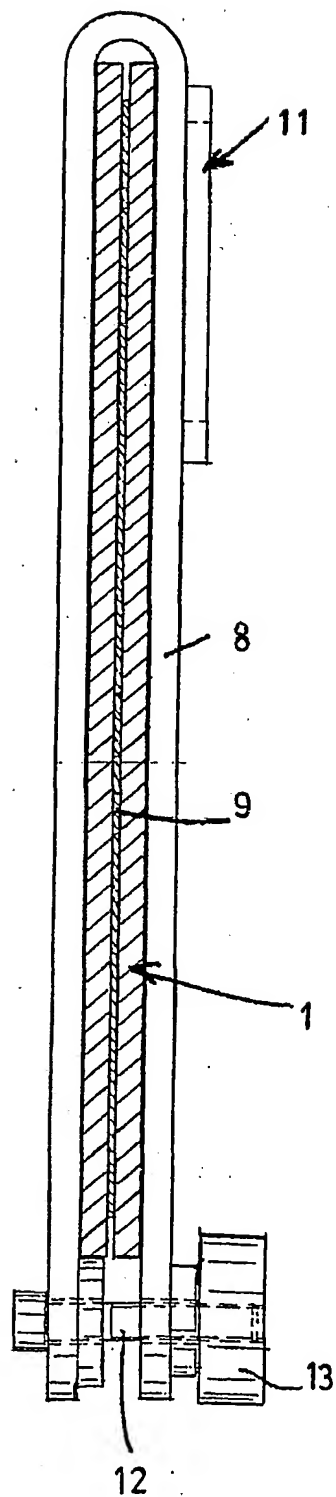
12. The device according to one or more of claims 9-11 characterized in that it is made of transparent plastic material or glass.

13. The device according to claim 9, wherein said supporting element consists of a discoidal element on
25

which said photographic images or reproductions are circumferentially arranged and the cosmetic products associated with each of said images are radially arranged.

- 5 14. The device according to one or more of the previous claims, comprising one or more of the characteristics described and/or illustrated.

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FIG. 2

INTERNATIONAL SEARCH REPORT

Intel[®] nal Application No

PCT/EP 02/07114

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B5/103

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B G01N A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 00 76398 A (PROCTER & GAMBLE) 21 December 2000 (2000-12-21)	1,9,10
A	page 6, line 5 -page 7, line 24 page 13, line 8 -page 14, line 28; figures 1-5,12	2,3,8
Y	EP 0 748 608 A (IPS INT PROD SERVICES) 18 December 1996 (1996-12-18)	1,9,10
A	column 3, line 26 - line 59; figure 2	11-13
A	FR 2 540 991 A (SIGNOREL YVES) 17 August 1984 (1984-08-17) page 1, line 12 -page 2, line 40; figures	9-13
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

* & * document member of the same patent family

Date of the actual completion of the international search

12 November 2002

Date of mailing of the international search report

20/11/2002


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INTERNATIONAL SEARCH REPORT

Intel  International Application No
PCT/EP 02/07114

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 1997, no. 02, 28 February 1997 (1997-02-28) & JP 08 280633 A (KANEBO LTD; KEY TRANDING CO LTD), 29 October 1996 (1996-10-29) abstract; figures</p>	1-4, 8

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 5-7,14

The term "Rugastir" employed in claims 5-7 and appearing to be a registered trade mark has no precise meaning as it is not internationally accepted as a standard descriptive term, thereby rendering the definition of the subject-matter of these claims 5-7 unclear (Article 6 PCT). The lack of clarity is such as to render a meaningful complete search impossible.

Claim 14 is not clear in that it relies on references to the description or drawings (Rule 6.2(a) PCT).

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 02/07114

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 5-7, 14
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/EP 02/07114

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0076398	A	21-12-2000	AU 5598000 A	02-01-2001
			BR 0012216 A	06-08-2002
			CN 1355680 T	26-06-2002
			EP 1189536 A1	27-03-2002
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